BEHAVIOUR OF PROFILED STEEL SHEET DRY BOARD SYSTEM AS WALLING UNIT WITH DOOR OPENING

A report submitted to Universiti Teknologi MARA to fulfill the requirement for the degree in Bachelor of Engineering (Hons.) (Civil) in the Faculty of Civil Engineering.

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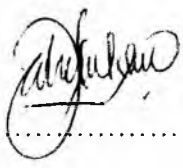
DECLARATION

I hereby declare that the report has not been submitted, either in the same or different form, to this or any other university for a degree, and except where reference is made to the work of others, it is believed to be original.



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(ZAHARIL NIKMAN @ MUHD BIN ARMAN)

ABSTRACT

The experimental study on the Behaviour of Profiled Steel Sheet Dry Board System (PSSDB) with Door Opening as load bearing wall were carried out. PSSDB is formed by Profiled Steel Sheet (BONDEK II) connected to two the dry boards (CEMBOARD) using self-tapping screws. The study of PSSDB system involved double-skin composite walling panel.

The experiment carried out was to determine the behaviour of this system under axial load. There were four samples tested with and without overlapping of profiled steel sheet. The size of sample was 600mm width and 1000mm height. The size of door opening was 186mm width and 680mm height. The parameters measured and determined were deflections, overall buckling, crushing on panel, Young's Modulus (E) and ultimate load capacity. From the experiment, load-displacement curve and stress-strain relationship were identified.

The average ultimate load capacity for the overlap sample was 214kN and the ultimate load capacity for the non-overlap was 138kN.

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